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ABSTRACT

The Industrial Vocational Training Scheme project resulted from a study made by a United Nations mission which recommended procedures for the development of West Irian. The purpose of the project reported was to assist the government in establishing an industrial vocational training scheme consisting of a training department within the Office of Manpower Affairs in West Irian, and two training centers, one at Djajapura and one at Manokari. The Djajapura Center, though still engaged in the construction of the physical facilities, has offered the first 2-year courses. These have been completed by 60 trainees. The courses offered at the center are in five trades: automotive, machine-shop, electrical, woodworking, and carpentry and building. The major difficulties encountered in the project were a shortage of instructors and a shortage of accommodations. The report also discusses in detail 10 policy recommendations and contains an appendix of lists of staff, international experts, government contributions, summary of expenditures, and areas of origin. (BP)

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WEST IRIAN

INDUSTRIAL VOCATIONAL TRAINING SCHEME

(WIR/69/002) (ex. FUNDWI-2)

Technical Report No. 1

THE SETTING UP OF THE DJAJAPURA CENTRE

BY

THE INTERNATIONAL LABOUR ORGANISATION

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Geneva

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PROJECT DATA SHEET

Country:	West Irian
Project Title:	Industrial Vocational Training Scheme
Project Code:	WIR/69/002 (ex. FUNDWI-2)
Co-operating Government Agency:	Department of Manpower
Date Planop Signed:	30 January 1969
Date Operational:	2 April 1969
Project Duration:	Six years

FUNDWI Allocation	US $1 560 801*
Consisting of:	
FUNDWI contribution	US $1 446 201
Government contribution towards local operating costs	US $ 114 600
Government contribution in kind	US $1 470 740

International Experts Foreseen in the Plan of Operation*

1. Chief of Project.
2. Expert on apprenticeship and in-plant training.
3. Expert on automechanics.
4. Expert on heavy equipment maintenance.
5. Expert on machine shop.
6. Expert on welding, sheet-metal work and plumbing.
7. Expert on building construction.
8. Expert on woodwork.
9. Expert on electrical trades.
10. Power distribution linesman.
11. Expert on foundry practice.

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* According to Adjustment Advice No. 1 of January 1970.

INTERNATIONAL LABOUR OFFICE

UNITED NATIONS DEVELOPMENT PROGRAMME
(FUND OF THE UNITED NATIONS FOR THE DEVELOPMENT OF WEST IRIAN - FUNDWI)

ABSTRACT OF TECHNICAL REPORT

Country:	West Irian	Project Title:	Industrial Vocational Training Scheme
Project Code:	WIR/69/002	Report Title:	The Setting Up of the Djajapura Centre
Report No.:	ONE		
Date:	January 1973		

ABSTRACT

This technical report describes the organisation of the Djajapura training centre.

As a result of the amount of pioneer ground clearance and construction work required to provide the physical facilities needed for a centre and initial difficulties in obtaining electrical power and water, operations are considerably behind schedule. Nevertheless, the Djajapura Centre now exists and is in operation. The first 2-year courses (in five trades) have been completed by 60 trainees. The second series of courses (covering seven trades) has started with 112 trainees. Skill standards and tests for use at the Centre are under preparation.

The Centre is already well known in the region and has attracted the attention of potential employers.

The major difficulties still to be overcome are a shortage of instructors and a shortage of accommodation.

The report ends with the following recommendations designed to strengthen the project and ensure that it achieves all its aims:

- that as a temporary and ad hoc measure, a "Vocational Training Advisory Board" be established as soon as possible;

- that every effort be made to increase the instructor staff to the required minimum of 29;

- that, in view of the difficulty in finding sufficient local instructors, the services of six UN Volunteers be secured for 1973 and 1974;

- that every assistance be given to permit the completion of staff quarters as soon as possible, and that additional building work be carried out to provide more training space and living accommodation;

- that the administrative and other supporting staff be assigned to the project as rapidly as possible;

- that consideration be given to the desirability of seeking international assistance on skill-testing;

- that in-plant training on diesel engine and heavy equipment maintenance be organised at the PWD Central Workshops;

- that regular surveys be carried out to determine new training requirements;

- that the organisation of apprentice, foreman and supervisory training be postponed until plants are better organised and requirements have become clear;

- that caution be shown in the use of mobile training units.

I. INTRODUCTION

Change in Reporting Arrangements

1. Due to difficulties encountered in getting this project effectively under way, mainly as the result of delays in building work, activities did not advance as rapidly as planned and it was realised that there would be little point in submitting Technical Report No. 1, on the organisation and operation of the training department, in May 1971, as originally foreseen. Instead, it was decided at the end of 1971 that Technical Report No. 1 would be submitted to the Government in June 1972 (the date originally foreseen for Technical Report No. 2, on the setting up of the Djajapura Centre) - and would cover the matter originally indicated for reports Nos. 1 and 2. It is this report which is now submitted. It covers the period up to May 1972. Unfortunately, there is little to report on the training department, because it has not developed as foreseen.

Origin of the Project

2. The project described in this report resulted from a study of West Irian made by a United Nations Survey Mission in May-August 1967 with a view to recommending the most effective use of a US$30 million fund set up by the Government of the Netherlands for the development of West Irian.

3. The survey having shown that vocational training was vitally required to permit development of the country, a Plan of Operation for United Nations Development Programme (UNDP) assistance was signed on 30 January 1969, with the International Labour Organisation (ILO) as Participating and Executing Agency. The project officially became operational on 2 April 1969, with an expected duration of six years.

Purpose of the Project

4. The purpose of the project, as stipulated in paragraph 1.1 of the Plan of Operation, is to assist the Government in establishing an industrial vocational training scheme consisting of a training department within the Office of Manpower Affairs in West Irian, and two training centres, one at Djajapura and one at Manokwari.

Review Mission

5. A UNDP/ILO review mission visited the project from 15 February to 1 March 1972 (instead of in October 1971, as

originally foreseen). It made extensive recommendations which are taken into account in this report and some of which are already being applied.

Acknowledgements

6. The Director-General of the ILO expresses his appreciation for the very full support given to the project by the governmental authorities and for the willing collaboration received from other officials with whom the project staff came into contact.

II. TECHNICAL BACKGROUND

7. In 1971, the total population of West Irian was estimated to be approximately 830,000.[1] The annual population growth rate amounted to about 2 per cent. There were six urban areas in which some industrial development was beginning to take place. The inhabitants of the highlands continued to live in entirely pre-industrial conditions.

8. The total labour force was estimated to be around 297,000 in 1971. However, the overwhelming majority made a living in the subsistence sector. Only about 28,000 persons were in the monetary sector. Most of these persons (about 17,000) were employed in the rapidly expanding public sector which includes, in addition to community services, a variety of undertakings concerned with primary production, transport and communications, and manufacturing. Some 10,800 persons were working in the private sector.

9. The educational standard of the population is generally very low. However, there have been considerable improvements in recent years following the expansion and increased intake of the educational system since late 1960. From 1963 to 1971, the total enrolment in primary schools increased from 68,500 to 118,316. In 1971, the enrolment ratio of the school-age population was estimated to be 78 per cent. On the other hand, only 4 to 6 per cent of children attending primary school graduate after 6 years of schooling. Others either drop out before, or fail the final examination (about 4 to 6 per cent). Moreover, it is significant that there are only 260 secondary-school graduates per annum. These figures indicate that the quantitative improvements were not matched by qualitative ones. Vocational training activities have to be undertaken on the basis of relatively low educational achievements.

10. In view of the very scant statistical information available, only very rough estimates of future skilled manpower requirements could be made. In 1967, it was assumed that between 450 to 600 skilled workers would be needed annually by the economy of West Irian, principally for the maintenance and repair

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[1] The population and subsequent manpower figures have been derived from a draft report on a manpower survey by A.K.G. Dahl, ILO expert in vocational training planning, (unpublished).

of technical equipment.[1] This forecast was slightly refined at at later stage, for selected groups of occupations.[2] The following skilled workers are estimated to be necessary to meet the needs of the still embryonic, but growing, industry of West Irian:

Occupational Groups	Need for Skilled Workers	
	1971-76	Per Year
Metal trades	420	84
Electricians and electrical fitters	220	45
Motor mechanics (including diesel)	120	24
Radio repair and maintenance	125	25
Bricklayers and stone masons	110	22
Carpenters and joiners	160	32
Clerical workers	1 025	205

11. The area has a good deal of natural resources, and surveys to permit their exploitation have been undertaken. The potential for industrial development is there, but its pace and extent will depend on the skills and spirit of the labour force available. The project's activities are designed to overcome the more serious skill bottlenecks.

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[1] United Nations, A Design for Development in West Irian, UN, New York, 1968, p. 88.

[2] Dahl, A.K.G., op. cit., p. 32.

III. PROJECT ACTIVITIES

Part 1 - General

Training Authority

12. The body responsible for vocational training is the Manpower Advisory Council, which was established in January 1971. However, although this Council exists, it has not been very active. Two meetings, in January and in February 1971, were the first for two years. The branch office in Djajapura is, with few exceptions, manned by rather low-level personnel, so that any directives and assistance hitherto received by the project from official quarters have come direct from the Ministry of Manpower in Djakarta, the Governor of West Irian, Bappenas and General Acub Zainal.

13. As the West Irian Office of Manpower Affairs does not possess the necessary administrative and technical staff to establish a provincial human resources development policy, consideration is being given to the setting up of a temporary new body to be known as the Vocational Training Advisory Board, which would advise the project and other parties on vocational training matters, project development, trainee welfare, etc.

Project Personnel

National Staff

14. Mr. Walsito, a school principal and long-term civil servant is proving to be an enthusiastic and able counterpart to the Project Manager. However, he is somewhat handicapped by unfamiliarity with modern vocational training methods and would benefit greatly from a study tour abroad.

15. The low salaries paid to instructors create a problem to which it is unlikely that a solution can be found in the near future, as there are many teachers in the country and any improvement would have to apply to all of them. Consideration is being given to the possibility of raising additional money by organised and well-controlled production work which would not disturb local enterprises. The Project Manager discussed this proposal with the Minister, who supports the idea. Proposals for such activities in various trade fields will be examined by ILO headquarters, once prepared by the project staff. In any case, even if approved, they could not be implemented during the first 2-year training programme, as the trainees must first of all acquire practical experience. A list of national staff is given as Annex I.

International Staff

16. The international staff consists of the Project Manager and six trade experts (machine shop, automechanics, electrical trades, woodwork, building construction, and welding/sheet metal/plumbing.) Expert services are summarised in Annex II, which shows that a total of 193 man/months had been delivered at the end of April 1972. The Project Manager changed in December 1970. The expert on heavy equipment maintenance (post No. 4) foreseen for this project was transferred to the FUNDWI-29 project upon arrival in the country. The first expert on welding, sheet-metal work and plumbing (post No. 6) was unable to perform the tasks foreseen for him as the necessary facilities were not available when he arrived. He therefore assisted the expert on building construction until he fell sick and had to be evacuated to hospital in Singapore. A replacement has been appointed and training in this field is now organised.

17. The fact that some experts could not start the duties foreseen for them immediately upon arrival, due to delays in construction and unforeseen preparatory work, created a shortage of man/months for the completion of some of the planned activities. This difficulty has been partly overcome by cancelling certain posts which had become unnecessary and by re-allocating some of the man/months provided for other tasks for which experience had shown that less than the scheduled time was needed.

Fellowships

18. All full-grade instructors will be needed on the project during the running of the first 2-year course, since this period is a pioneer one during which the training should not be disturbed by staff changes. It will therefore be impossible for them to start fellowship training abroad before 1973.

19. The co-Project Manager also cannot be spared from the project at present although, as mentioned in paragraph 12, he would benefit immensely from visits to some model European VT schemes. Such a tour could not be undertaken before May 1973 at the earliest.

20. In the meantime, authorisation is being sought in 1972 for the first two fellowships, to enable two building-trade junior assistant instructors to undergo training at Kuala Lumpur. In addition, six instructors were sent to the Bandung Centre for pre-fellowship training to bring them up to the standard necessary to obtain optimum benefit from fellowships.

Finances

21. The Government provided Rp 90 million for the fiscal year May 1971-May 1972. This was used to pay debts, set up the sheet-metal-plumbing-welding shop, six staff houses, install the water line and electricity lines and to cover project running costs. (See Annex III.)

22. An additional sum of Rp 23 million, not foreseen in the budget, was approved in April 1972. This money was to be used to build a hundred-bed dormitory, 500 m of asphalt road through the Centre, beds and furniture and to cover food costs for 180 trainees plus personnel from February to May 1972. The money had not arrived when this report was being written, but enough had been borrowed to cover food costs.

23. A new budget for the fiscal year May 1972 to May 1973, amounting to Rp 207 million, was drawn up by the Project Manager and co-Manager and supported by the review mission, but was voluntarily reduced to 183 million when submitted to the Ministry and Bappenas. This sum does not cover all the funds needed for staff houses, but that is not important at present, as the VTC is not yet fully staffed. However, the accommodation will probably be needed in 1973.

24. A summary of expenditure under seven main headings is given in Annex IV.

Relations

With Governmental Officials

25. These have been excellent. All officials have shown interest in the project and given good support to it.

With Industry

26. The activities of two foreign copper and nickel mining companies have been expanding and both companies have maintained contact with the project. They have expressed interest in having the skills of several members of their technical personnel upgraded by means of short courses provided against payment.

27. Initial steps have been taken by the Project Manager and his counterpart co-Manager to establish more formal relations between the project and potential employers of the project's graduates.

Part 2 - Djajapura Centre

Site Preparation

28. The Government made available for the Centre a site of 9.5 ha - almost twice the area foreseen during 1967 survey missions. The site is sufficient both for immediate needs and to permit later expansion.

Ground Clearance and Foundation Laying

29. Plans for the layout of the site having been completed, the jungle round the site was cleared by the trainees outside training hours and banana trees and vegetables were planted to supply some food for the Centre.

30. Foundations were laid for a 60-bed dormitory and a recreation hall.

31. Once initial organisation had been completed, second-stage jungle clearance was needed, to permit extension of the site, to drain a swamp and to provide a sports area.

Road Construction

32. The future road areas were bulldozed by a contractor and at the end of March 1972 a 500-metre road through the centre of the site was started. This road had to be supported with a 75 m2 stone retaining wall. The 3 km road from Djajapura town to the Centre was repaired to enable the project staff to transport machinery to the site safely.

Health, Sanitation and Safety Measures

33. Malaria is the biggest health hazard in the area. This is mainly caused by a large swamp bordering the site. The daily sick call usually reveals five cases of malaria. This situation is known to the local health authorities and the WHO representative who have given advice, but the only real solution is elimination of the swamp.

34. Because funds for official action are not available, self-help measures have had to be taken. In addition to the jungle clearance mentioned above to facilitate drainage, the project staff and trainees have been filling in the swamp on the water-inflow side. When this work is finished, canals with natural flow towards the sea will be dug to lead off the water. A dam to stop water inflow will be constructed if a bulldozer can be secured.

35. In addition to this swamp-drainage work, drainage ditches have been dug to keep the general site dry.

36. A central canal is under construction to drain all waste and rain waters to the sea, which is 50 metres below the surrounding hill jungle. Combustible wastes are burnt and the residues used to fill in erosion holes.

37. Construction of a safety fence round the site, made of wood from the jungle, was started in December 1971.

Building Work

38. The automotive, machine, woodworking and electrical shops were complete and organised by the end of 1971 as were also the administrative building, library, visual-aids room, generator house, storerooms, dormitory, recreation hall, refectory and kitchen. It was expected that the welding-plumbing-sheetmetal shop would be ready to function by June 1972. A separate workshop for the carpentry (cabinet-making) course will be constructed during 1972. Six staff houses were complete by January 1972. One toilet room, with washing facilities, was built by the local contractor and a dry toilet has been built by the trainees. Foundations for the management building and for extension of the dormitory have been laid by the trainees. A shower platform was laid and was expected to be equipped with showers by the plumbing class in May 1972. A kiln was constructed to burn corrals from the beach and thus obtain lime, as this is difficult to find locally. The first production effort was successful.

Living Accommodation

39. To supplement the 60-bed dormitory, the conference room of the recreation unit, the office and the sick bay are being used temporarily to house 25 trainees of the second-year intake and 3 instructors until more funds are released by the Government for construction work.

Equipment, Supplies and Furniture

Equipment

40. Equipment arriving was cleared and transferred to a port storehouse pending the availability of the corresponding workshops. All equipment then received had been moved to the workshops by the project staff by January 1971. The machines

were installed, but electrical connections were not made. UNDP/ILO equipment to a total value of approximately US$250,000 has been received and taken into use at the Centre since March 1971. A jeep, additional to the three vehicles already supplied, was expected to arrive in June 1972.

41. A 15 KVA diesel generator obtained from scrap sources was repaired and taken into use in December 1971 as the Centre's first autonomous source of power. Subsequently, when the Government provided a 132 KVA generator, the 15 KVA unit became an emergency and night-time power source.

42. Two combi-buses written off by UNDP were overhauled and one has been restored to roadworthy condition. It is being used by the instructors.

43. A 2.5 ton truck written off by the Government is being overhauled by the trainees and will be taken into use once the work is finished in June 1972.

Supplies

44. Carbide is available in Java. However, although the Centre will use this carbide, it intends to generate its own acetylene for the welding training. A central-supply generator has been requested through ILO. A study is being made of the possibility of obtaining oxygen from the Manokwari oxygen plant. The Centre is being discouraged from relying on imported supplies.

Furniture

45. Beds, chairs and benches were designed and prototypes were constructed by the woodworking class with wood from the jungle. Sixty double bunks and several chairs and benches were made by the new (second-intake) trainees in three days, just before courses started in February 1972. Sufficient simple bunks have now been built to fill all available covered space. A large amount of furniture has been made by the instructors and trainees outside official working hours.

46. The necessary work benches also have been built.

Installation Work

47. It was estimated that about 130 KVA would be needed to run the Centre. Since the town supply was not available, as had been planned, a 5.4 KVA generator was borrowed in May 1971 to provide single-phase power for electrical hand tools and machines. This was adequate at the time, because only basic training was under way. In December 1971, a scrap 15 KVA generator was recovered and restored to working condition, driven by a 10 h.p.

diesel engine; this provided a 3-phase supply and became the only power source for a time, as the borrowed generator had broken down. In February 1972, the Government supplied a 132 KVA generator to the Centre because the UNDP/ILO unit had not arrived. The UNDP/ILO 180 KVA generator arrived in Djajapura in March 1972, so that the Centre should now be able to satisfy its electrical power requirements for some time to come.

48. Power supply lines were laid on the site by a local contractor between April 1971 and April 1972. During the same period, the 132 KVA generator was installed and connected to the supply lines. The expert and trainees carried out internal electrical work and connected the workshop machines.

49. So far, the local electricity authorities have taken no action to connect the Centre to the town supply. Since present electricity prices make it more economical to use the Centre's own power, steps have been taken to ensure proper maintenance of the generators by two hired operators.

50. At the start of the project, a one-inch water pipe supplied water day and night. This temporarily provided sufficient water for building construction and for personal use. An additional two-inch supply-pipe had been laid to the entrance of the VTC by the end of 1971. Unfortunately, both lines have been tapped too often on their way to the VTC by settlers in the newly-constructed village above the VTC. Since waterline laying costs are very high if the work has to be done by contractors, the greatest part of the line within the site was laid after duty by unskilled trainees under the supervision of the Project Manager, and staff houses, the kitchen and dormitory have been connected. The water situation still is not solved, since after every big thunderstorm the water supply stops. It is planned by the management of the VTC to tap a river near the VTC, which will not be used by the local people for years to come because it is located in a still-virgin jungle. It is hoped to receive funds for the necessary pipes by the end of 1972, and an electrically-driven pump will be requested from ILO.

Transportation

51. Transportation has been arranged for instructors and trainees between the Centre and Djajapura.

Instructors

52. Project activities as a whole have been greatly handicapped by the non-availability of local instructors. All the counterpart instructors were inexperienced in their new field of activity when they arrived. They were trained at the Bandung

Teacher Training Centre and received further training from the experts prior to the commencement of trainee courses. However, no upgrading training could take place during 1971 once courses started. The international staff consequently gives more than normal attention to their preparations for theory and practical classes. They have to keep records of all lessons conducted, in the form of a manual. Vacation periods have been used to give them concentrated upgrading instruction in subjects coming up in the following courses.

53. Since April 1972, all local instructors have undergone organised upgrading training, given by the experts six hours per week. As stated in paragraph 20, six instructors have undergone refresher training at Bandung. In nearly all cases, instructors' knowledge of English has improved considerably as a result of their contact with the experts. One of the instructors is particularly promising and will be sent to Turin on fellowship as soon as circumstances permit.

54. The instructor staff, which is listed in Annex I, at present consists of ten acting instructors and six acting assistant instructors, whereas a minimum total of 29 is required.

55. Seven local instructor candidates, with relatively high levels of education and a practical background, were engaged during the first trainee-selection period. They underwent the basic training course with the trainees, without any privileges, and at the end of the course served as assistant-instructors for three months. They then followed the six-month course at Bandung Teacher Training Centre, returning to the VTC in February 1972. They need still further upgrading.

56. Additional instructor candidates were to be sought by newspaper and radio announcements in May 1972. The Government is aware of the unsatisfactory instructor situation and is seeking rapid solutions.

57. Fellowships are dealt with in paragraphs 18-20.

Trainees

Selection

58. As a result of radio and newspaper advertisements in February 1971, 195 persons applied for training. After completion of a questionnaire and a two-day theory and practical test, sixty of these applicants plus a reserve of twenty were selected for training in the first course (five trades).

59. In December 1971, a further 296 applicants underwent a three-day test (one day theory, one day practical and one day endurance (wood-cutting in the jungle)). Of these, 112 were selected for the second course (7 trades) and a further ten for each trade, as a reserve.

Background

60. Although the applicants for these courses come from a very underdeveloped area, the selected applicants are not undisciplined or uneducated. They had all received nine years' education and speak a common language (Bahasa Indonesia); some even speak a little English. First experience with them has shown that although they do not possess a sound technical background, they progress more easily and work more willingly than trainees in Europe, despite the fact that they do not work as steadily. They are good-natured, but lacking in a sense of responsibility. A table showing the areas of origin and educational backgrounds of the trainees is given as Annex IV.

Discipline

61. The trainees, who wear dark-blue overalls and white shirts for practical work, and white shirts and shorts for classroom work, start the day with a short period of physical training. Sports and special work (e.g. jungle clearance round the Centre, planting of fruit trees and vegetables) take place after duty in the afternoon. Special attention is paid to punctuality, accuracy and cleanliness. Lights go out at 22.00 hours. Only two of the first intake of 60 have dropped out.

Courses

62. Courses are given from 07.30 till 13.30 every day except Sunday, the period 11.00-13.30 on Fridays being reserved for instructor training.

63. The first two-year course, with 60 trainees, started in March 1971. The course covers the five trades - automotive, machine-shop, electrical, woodworking (cabinet-making), carpentry and building, and each class is composed of 12 trainees.

64. The second course, with 112 trainees, divided into classes of 16, started in February 1972 and covers seven trades (the same five as course No. 1 plus radio and welding-plumbing-sheetmetal).

65. It is expected that the completion of current extension plans will permit an annual graduate output of 362 by 1974.

In-Plant Training

66. Due to slowness in the development of existing plants and in the establishment of new industries, it has not been possible to start in-plant training, an activity which it is now hoped will be possible in 1974.or 1975.

Apprentice Training

67. Again due to the present state of industry, apprenticeship training also has not yet been introduced. A further reason for this postponement lies in the fact that the authorities are at present reconsidering their approach to this form of training.

Supervisory Training

68. This type of training also has had to be postponed until 1974 or 1975.

Skill Standards, Tests and Certification

69. A national system of skill testing, standards and certificates is under preparation. In the absence of national standards, the project staff has periodically carried out provisional skill tests at the Centre.

70. The time which has had to be spent finding and training instructors has slowed down the preparation of training aids. However, all the experts are completing their syllabi and lesson plans after duty hours and these are translated into Bahasa Indonesia by the instructors. The syllabi are being assembled as a training manual covering all the trades offered, which will be completed at the end of the first two-year course. It was expected that the English version would be complete by May 1972. The Ministry of Manpower has asked to receive this manual as soon as it is complete.

71. In view of the low initial background level of the instructors and trainees and the language difficulty, it would be useful to secure the services of a curriculum development expert for at least six months.

Publicity

72. The Government has shown great interest in the Centre, which has been visited by many senior governmental officials, such as the former Minister of Manpower, Admiral Mursalim, the present Minister, Professor Dr. I. Mohammad Saldi, the Head of the Bureau of Foreign Affairs and Information, Mr. A.G. Samil. Visits have also been received from British Embassy officials, the Australian Administrators from Papua, industrial officials, missionaries, and others. On the occasion of most of these visits, press photographs have been taken and used in magazine and newspaper articles, and films have been made. The VTC is now known throughout West Irian and in manpower circles throughout Indonesia. It forms part of the tour of visiting dignitaries.

IV. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

73. Considering the difficult conditions under which the project started, especially the fact that all physical preparations such as site clearance, building construction and building installation had to be carried out before training could be organised, remarkable progress has been made. The Government has given excellent support to the project. Of the total of 7,798 m^2 of buildings foreseen, 4,320 have already been constructed and are of high quality.

74. The Djajapura VTC is well established with sufficient training accommodation and equipment to meet present requirements, although the living quarters for instructors and trainees are not yet adequate. The planned output of graduates has already been attained in seven trades and the over-all annual training target has even been exceeded, but training is not yet fully up to the necessary standard in all of them, due to the need to use some of the time of the first and second intakes of trainees on building and installation work. More instructors are required and the available instructors need further upgrading.

75. In view of the limited development of industry in the Manokwari area, it would be premature to establish a VTC there at the moment.

76. It would also be premature to attempt to introduce apprentice, in-plant and supervisory training at the moment as enterprises cannot yet offer the necessary facilities.

77. The necessary national body for organising, co-ordinating and supervising vocational training does not yet exist and is urgently required.

78. Having in mind the relatively large inputs by the Government, FUNDWI and the ILO and the encouraging results so far obtained, every effort should be made to fulfil the objectives of the project completely. To this end, some rephasing will be necessary and the allocation of further funds would be justified.

79. In order to permit the project to attain its remaining objectives, the following recommendations are offered.

Recommendations

Vocational Training Advisory Board

80. In view of the difficulty encountered in organising an effective national Manpower Advisory Council, it is recommended,

as a temporary and ad hoc measure, that a "Vocational Training Advisory Board" be established as soon as possible. This Board would be responsible for advising on vocational training policy in West Irian, manpower requirements, skill shortages, further project development, trainee and staff welfare, etc., and should meet at least three times a year.

81. It would be appropriate for the Minister of Manpower and the Governor of West Irian to designate the members of the Board, which should be at the highest level possible. It should ideally be composed of at least the following:

Chairman: Vice-Governor or another high-ranking civil servant

Members: Head of PWD or his representatives

" of Educational Dept. or his representatives

" of Home Affairs Dept. " " "

" of Personnel Dept. " " "

" of Industry Dept. " " "

" of PLN " " "

" of Labour Dept. " " "

National Director of the VTC

3 leaders of local trade unions

3 industrial employers

Advisers: The Deputy Resident Representative MUNDWI

The Project Manager, MUNDWI-2

Instructors

82. As the success of a training programme depends to a very large extent on the numbers and quality of the instructors, it is recommended that every effort be made to increase the instructor staff to the required minimum number of twenty-nine and to ensure that it is adequately trained to take over when the international experts leave the project. A tailored instructor training programme drawn up with the help of international expertise is available at the Bandung Centre and it would be advisable to take full advantage of that programme.

83. Special upgrading of the existing instructors should be undertaken immediately in accordance with an established programme, and they should be confirmed in their posts as soon as possible.

84. Since the training of good instructors costs a lot in time and money and since staff teamwork is important in a training programme, action should be taken as soon as possible to increase the job satisfaction of the instructors by such measures as the improvement of salaries and other aspects of employment, so as to retain them at the Centre. Two of the existing instructors might be made Chief Instructors designate.

Apprentice, Foreman and Supervisory Training

85. In view of the fact that the national approach to apprenticeship schemes is at present being reconsidered and that West Irian enterprises are not yet sufficiently developed to provide the necessary facilities and supervision, it is recommended that the organisation of apprentice, foreman and supervisory training be postponed until plants are better organised and requirements have become clear. Related training under the project might commence by 1975. In the meantime, urgently required skill-upgrading courses for existing foremen and supervisors could be organised at the VTC.

In-Plant Training

86. For the same reasons, systematic in-plant training will need to be postponed until 1974-75 at the earliest, except as regards diesel engines and heavy equipment. Practical training in these fields is available at the PWD Central Workshop near the VTC and it is recommended that training be organised there on a six-month block-release basis.

Skill Testing

87. Although the VTC should establish a skill-testing system for its own use as rapidly as possible, it appears too soon to undertake the preparation of national skill-testing standards at present. This might be undertaken in 1975-76 and it is recommended that consideration be given to the desirability of seeking international assistance for the purpose at that time.

Mobile Units

88. In view of the high cost of the units and the difficulty in finding instructors, it is recommended that they be introduced

only when a real need arises, in the building and light woodworking trades, and for typing and preventive vehicle maintenance. Even then, their use would depend on the availability of instructors.

New Course Requirements

89. It is recommended that regular surveys be carried out to determine new training requirements. There is already evidence that skilled workers are needed for outboard-motor maintenance and repair, linesman work, cable-joining, switch-gear and transformer maintenance, diesel and heavy machine maintenance and repair and supplementary training in preventive vehicle maintenance for drivers.

UN Volunteer Assistance

90. In view of the limited expert man/months remaining and the difficulty in finding sufficient instructors, it is recommended that the services of six UN Volunteers be secured for the two years 1973 and 1974 to assist the experts in the day-to-day practical workshop training. These volunteers should be fully qualified tradesmen in the fields of automechanics, diesel and heavy equipment, machine shop, radio, plumbing/sheetmetal/welding, and woodworking/cabinet-making.

Training and Living Accommodation

91. In view of the concentration of training at Djajapura and the increase in seating capacity required there, it is recommended that the following additional building work be carried out:

- two additional workshops for woodworking and diesel and heavy equipment mechanics;
- one two-storied dormitory for 120 trainees (already foreseen in the 1971-72 budget);
- one two-storied dormitory of the same capacity to be foreseen in the 1972-73 budget;

thus providing dormitory capacity for a total of 300.

92. In view of the urgent need to complete the instructor staff, it is recommended that the construction of staff quarters be finished as rapidly as possible.

Administrative and Other Supporting Staff

93. It is recommended that the administrative and other supporting staff foreseen in the Plan of Operation be assigned to the project rapidly in order to enable the Centre to work at maximum efficiency.

ANNEX I

(Textual reference: paras. 15 and 54)

LIST OF NATIONAL STAFF

(a) Technical staff

Field	Name	Grade
Project Management	Mr. Walsito	Co-Project Manager
	N. Kambuaja	Acting Chief Instructor
Automechanics	E. Souhuwat	Acting Instructor
Machine shop	J. Fami	" "
	J. Darodja	" "
Electrical trades	H. Heipon	" "
	J. Boari	" "
Welding, sheetmetal, plumbing	Mr. Saliman	" "
Woodwork	A. Mitjibaru	" "
	M. Samori	Acting Assistant Instructor
	J. Samberi	" " "
Building construction	E. Isir	Acting Instructor
	I. Nanthi	" "
	A. Kondologit	Acting Assistant Instructor
	M. Wafom	" " "
	E. Samberi	" " "
	S. Buinei	" " "

(b) Supporting staff

Mr. Hargonotedjo	Secretary
Mr. Soemadiono	Accountant/Administrative Officer
Mr. Sardi	Typist
Mr. Kajame	Messenger
Mr. Arlay	General operator

ANNEX II

(Textual reference: para. 16)

LIST OF INTERNATIONAL EXPERTS

Post	Name	Nationality	Man/Months Planop[4]	Man/Months Delivered 30.4.72
1. Project Manager	K.A. Krause[1]	German	67	56.5
2. Exp./apprenticeship and in-plant			33	
3. Ex./automechanics	S. Conrad	British	36	31.5
4. Exp./heavy equip. maint.[2]			36	
5. Exp./machine shop	G.A. Beech	British	36	31.5
6. Exp./welding, sheet-metal, plumbing	C. Polk[3]	American	36	12
7. Exp./building construction	L. Cardon	American	48	19.5
8. Exp./woodwork	P. Smith	British	35	10.5
9. Exp./electrical trades	S. Szimansky	Polish	39	31.5
10. Power distribution linesman			12	
11. Exp./foundry practice			6	
			384	193

1. Post held until December 1970 by F. Schlup.
2. Expert transferred to project FUNDWI-29 upon arrival in country.
3. As no facilities were available for this expert, he worked with expert No. 7 until he became ill in September 1971 and went to hospital in Singapore.
4. As modified by Adjustment Advice No. 1. Figures in this column represent the totals for the duration of the project.

ANNEX III

(Textual reference: para. 21)

OVER-ALL GOVERNMENT CONTRIBUTION UP TO 31 MARCH 1972

	1969	1970	1971	1972	Total
PERSONAL SERVICES	Rp 2 778 300.-	Rp 4 000 000.-	Rp 3 270 000.-	-	Rp 10 048 300.-
LAND AND BUILDINGS	Rp 97 178 904.-	Rp 91 206 935.-	Rp65 723 000.-	-	Rp254 108 839.-
EQUIPMENT AND SUPPLIES	Rp 8 275 239.50	Rp 7 107 000.-	Rp 7 107 000.-	-	Rp 22 489 239.50
MISCELLANEOUS BOARDING FOR TRAINEES	....	Rp 1 744 600.-	Rp 5 400 000.-	-	Rp 7 144 600.-
LOCAL TRANSPORT AND HANDLING OF EQUIPMENT	Rp 2 827 140.80	Rp 2 500 000.-	Rp 500 000	-	Rp 5 827 140.80
LOCAL OPERATION COST	....	Rp 6 274 800	Rp 8 000 000.-	-	Rp 14 274 800.-
TOTAL	Rp111 059 584.30	Rp112 833 335	Rp90 000 000.-	-	Rp313 892 916.30

Note: An additional allocation of Rp23 000 000.- for one double-storied dormitory was made in 1971.

ANNEX IV

(Textual reference: para. 24)

SUMMARY OF EXPENDITURE

(as on 1 April 1972)

1.	Personnel	Rp	5 424 000
2.	Establishment of buildings, roads, etc.	Rp	137 550 000
3.	Administrative and supervising (trips) expenses, Djajapura	Rp	16 594 760
4.	Administrative and supervising (travel) expenses, Djakarta	Rp	1 000 000
5.	Equipment for the VTC dormitory and office	Rp	2 050 000
6.	Representation expenses	Rp	18 150 000
7.	Training cost for theory and practice for students	Rp	6 050 000
	Total	Rp	186 818 760

ANNEX V

(Textual reference: para. 60)

AREAS OF ORIGIN AND EDUCATIONAL BACKGROUNDS OF THE TRAINEES FORMING THE FIRST AND SECOND INTAKES AT DJAJAPURA CENTRE

Areas of Origin	Percentage
Biak	20.5
Djajapura	15.0
Fak-Fak	4.7
Manokwari	3.5
Merauke	8.0
Nabire	1.7
Serui	23.0
Sorong	12.4
Djawa	2.7
Maluku	1.7
Sulawesi	5.7
Sumatra	1.1
	100.00%

Educational Background	
Technical school	62.3
Secondary school	31.2
Technical high school	6.0
Economic high school	0.25
Primary teachers' school	0.25
	100.00%